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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

AN, SHAWN S

ART UNIT

PAPER NUMBER

2613

DATE MAILED: 04/05/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/840,531

Applicant(s)

TARDIF, JOHN A.

Examiner

Shawn S An

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4, 6-11, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Ng (5,262,854).

Regarding claims 1 and 9, Ng discloses a system for processing MPEG data to reduce volume of data processed to display the video images, comprising the act of:

Processing one or more MVs (Fig. 5, MVs) to produce coordinates for fetching prediction data from a previously decoded and subsampled reference frame (313);

Processing the reference frame and the one or more MVs of the MPEG data using a frame prediction module (304", 313) for generating predicted subsampled frame data;

Processing frequency coefficients of the MPEG data using an IDCT to generate IDCT output data (310);

Decimating the IDCT output data by a selected factor to generate decimated IDCT data (311);

Summing the predicted subsampled frame data and the decimated IDCT output data for generating video images in a reduced volume of video data.

Regarding claims 2, 6-7, and 13, Ng discloses decimating the IDCT output data in a first direction (horizontal) and by a second, perpendicular direction (vertical) by a factor of two (col. 8, lines 40-44).

Regarding claims 3-4 and 10-11, Ng discloses displaying the video images having a second video resolution that is less than the first video resolution (abs.)

Regarding claim 8, Ng discloses buffering a first frame of the video images in a first frame buffer, and buffering a second frame of the video images in a second frame buffer having a storage capacity smaller than a frame of MPEG data prior to decimation (col. 5, lines 30-37).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 18-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ng (5,262,854) in view of Boyce et al (5,828,421).

Regarding claim 18, Ng discloses a system for processing MPEG data to reduce volume of data processed to display the video images, comprising the act of:

Processing one or more MVs (Fig. 5, MVs) to produce coordinates for fetching prediction data from a previously decoded and subsampled reference frame (313);

Processing the reference frame and the one or more MVs of the MPEG data using a frame prediction module (304", 313) for generating predicted subsampled frame data;

Processing frequency coefficients of the MPEG data using an IDCT to generate IDCT output data (310);

Decimating the IDCT output data by a selected factor to generate decimated IDCT data (311); and

Summing the predicted subsampled frame data and the decimated IDCT output data for generating video images in a reduced volume of video data.

Ng does not specifically disclose a computer program product for implementing a method of subsampling the MPEG data.

However, utilizing a computer program product for implementing a method of subsampling/decimating the MPEG data is conventionally well known in the art.

Furthermore, Boyce et al teaches a computer program product for implementing a method of subsampling/decimating the MPEG data (col. 8, lines 35-38).

Therefore, it would have been obvious to a person of skill in the art employing a system for processing MPEG data to reduce volume of data as taught by Ng to incorporate the computer program product as taught by Boyce et al for implementing a method of subsampling/decimating the MPEG data for saving costs associated with the hardware.

Regarding claim 19, Ng discloses decimating the IDCT output data in a first direction (horizontal) and by a second, perpendicular direction (vertical) by a factor of two (col. 8, lines 40-44).

Regarding claim 20, Ng discloses the selected factor for reducing the volume of MPEG data to display the video images and to retain enough video

data to display the video images at a video resolution supported by the display device (318'; col. 5, lines 30-37).

Regarding claims 21-22, Ng discloses displaying the video images having a second video resolution that is less than the first video resolution (abs.)

Regarding claim 23, Boyce et al teaches displaying video images in a window PIP display having a resolution less than a resolution prior to the act of decimating (Fig. 1).

5. Claims 5 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ng (5,262,854) as applied to claims 1 and 9 above, respectively, and further in view of Boyce et al (5,828,421).

Regarding claims 5 and 12, Ng does not specifically disclose displaying video images in a window PIP display having a resolution less than a resolution prior to the act of decimating.

However, displaying PIP in a window is well known in the art.

Furthermore, Boyce et al teaches displaying video images in a window PIP display having a resolution less than a resolution prior to the act of decimating (Fig. 1).

Therefore, it would have been obvious to a person of skill in the art employing a system for processing MPEG data to reduce volume of data as taught by Ng to incorporate the well known concept of displaying PIP in a window as above as taught by Boyce et al for an obvious reason of viewing at least two images at once.

Allowable Subject Matter

6. Claims 14-17 are objected to as being dependent upon a rejected base claim 9, but would be allowable: if claim 14 is rewritten in independent form including all of the limitations of the base claim 9 and any intervening claims.

Dependent claims 14-17 recite the novel features, and the art of record fails to anticipate or make obvious the novel features as specified in the claim 14.

Accordingly, if the amendments are made to the claims listed above, and

rejected claims are canceled, the application would be placed in condition for allowance.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- A) Kim et al (6,104,753), Device and method for decoding HDTV video.
- B) Fenwick et al (6,075,906), System and method for the scaling of image streams that use motion vectors.

8. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-4700.

9. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to **Shawn S An** whose telephone number is 703-305-0099. The Examiner can normally be reached on Flex hours (10).

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



SSA

SHAWN S. AN
PATENT EXAMINER

Primary Patent Examiner

4/1/04